

Article

# Online dispute resolution mechanism for cross-border e-commerce: Empirical evidence from China

Xiangbin Zuo\*, Nur Khalidah Dahlan, Haniff Ahamat

Faculty of Law, Universiti Kebangsaan Malaysia (UKM), Bangi Selangor 43600, Malaysia

\* **Corresponding author:** Xiangbin Zuo, P127253@siswa.ukm.edu.my

## CITATION

Zuo X, Dahlan NK, Ahamat H. (2024). Online dispute resolution mechanism for cross-border e-commerce: Empirical evidence from China. *Journal of Infrastructure, Policy and Development*. 8(9): 6096. <https://doi.org/10.24294/jipd.v8i9.6096>

## ARTICLE INFO

Received: 28 April 2024

Accepted: 19 June 2024

Available online: 14 September 2024

## COPYRIGHT



Copyright © 2024 by author(s).

*Journal of Infrastructure, Policy and Development* is published by EnPress Publisher, LLC. This work is licensed under the Creative Commons Attribution (CC BY) license. <https://creativecommons.org/licenses/by/4.0/>

**Abstract:** With the rapid development of global e-commerce, cross-border e-commerce has become an important force in promoting international trade and economic globalization. Due to the rapid development of cross-border e-commerce, the number of online disputes is gradually increasing. These disputes demonstrate their complexity and diversity in terms of legal application, evidence acquisition, and enforcement. Tmall Global is a cross-border e-commerce platform under the Chinese e-commerce giant Alibaba Group. This study takes Tmall Global as an example to analyze the characteristics of disputes on this platform and explore the current situation of online disputes in cross-border e-commerce. Drawing on the experience of online dispute resolution in the European Union, ASEAN, and other regions, this article proposes a series of suggestions to improve China's cross-border e-commerce online dispute resolution mechanism, including enhancing the platform's own dispute resolution capabilities, strengthening international cooperation and artificial intelligence, optimizing dispute resolution processes using large data and cloud computing, strengthening consumer rights protection, and optimizing legal and regulatory frameworks. The aim is to provide an effective dispute resolution mechanism for China's cross-border e-commerce platforms and provide useful reference for other countries.

**Keywords:** cross border e-commerce; disputes; Online Dispute Resolution (ODR); Tmall Global; improvement suggestions

## 1. Introduction

Driven by the wave of digitalization, cross-border e-commerce has become a force that cannot be ignored in the global economy. With the facilitation of international trade and the rapid development of e-commerce platforms, more and more consumers and businesses are beginning to buy and sell goods and services across borders. Although this expansion of unbounded trade has brought unprecedented vitality and opportunities to the global economy, it is also accompanied by new challenges and problems, especially in the field of online transaction dispute resolution.

The complexity of cross-border e-commerce environment is mainly reflected in the diversity of legal jurisdictions and the anonymity of Internet transactions. There are significant differences in legal systems, business practices and consumer protection standards between different countries, which make it difficult to effectively resolve online transaction disputes (Sampani, 2021). Traditional dispute resolution mechanisms, such as court proceedings, are often inadequate, time-consuming, laborious and costly in dealing with cross-border e-commerce disputes. Seeking a new dispute resolution mechanism which adapts to the characteristics of contemporary e-

commerce has become the focus of attention in the field of international trade and e-commerce.

The theoretical basis of ODR mainly comes from the principle of Alternative Dispute Resolution Mechanism (ADR), while integrating the application of Information and Communication Technology (ICT) in the dispute resolution process. The design concept of ODR includes convenience, cost-effectiveness, speed, and cross regional, aiming to provide consumers in cross-border e-commerce with more efficient and accessible dispute resolution channels.

The theory of e-commerce emphasizes the impact of the online environment on business transactions and consumer behavior. ODR, as a mechanism for resolving disputes in e-commerce, is closely related to e-commerce theory, especially in areas such as consumer protection, data security, and privacy rights. This study explores how ODR adapts to the global characteristics of e-commerce and how it is designed to address cultural and legal differences that arise in cross-border transactions. The advantage of ODR lies in its use of technological means to reduce geographical and time constraints, and improve the efficiency of dispute resolution. However, it also faces challenges such as the digitization of evidence, determination of legal jurisdiction, and enforcement efforts. By comparing with existing literature, this study reveals the potential and limitations of ODR in practice.

This study is based on e-commerce theory, especially consumer behavior and online dispute resolution theory, which provide a solid theoretical foundation for us to understand consumer behavior in cross-border e-commerce. For example, according to consumer decision-making process theory, we assume that the efficiency of online dispute resolution mechanisms will affect consumer purchasing decisions and satisfaction.

## **2. Characteristics of cross-border e-commerce disputes**

Cross-border e-commerce activities involve many countries, and each country's legal system, business rules and consumer protection policies are different, which leads to complexity and uncertainty in the application of law. In cross-border transactions, when disputes arise, it is often difficult for both parties to determine which country's law should be used to solve the problem. This involves not only the scope of application of the law, but also the interpretation and enforcement of the law. Different countries have different understandings and regulations on freedom of contract, intellectual property protection and consumer rights protection, which invisibly increases the complexity of dispute resolution (Tiwarly and Pati, 2024). The anonymity and virtuality of the Internet make it difficult for both sides of the transaction to establish clear jurisdiction. Even when the applicable law is determined, cross-border enforcement is fraught with difficulties, as legal decisions from one country are often difficult to recognize and enforce in another country.

Data and information generated in the course of a transaction are typically stored on the e-commerce platform's servers, which may be located in different jurisdictions around the world. Differences in data protection and privacy laws in different countries complicate the collection and invocation of relevant evidence. The changeability and tamperability of electronic evidence also bring problems to the confirmation and use

of evidence. Electronic information can be easily modified or deleted, and ensuring its authenticity and integrity is a major challenge (Akhtar et al., 2022). Cross-border technical issues, such as the legal effect of electronic signatures and the authentication of electronic transaction records, require specific technical support and legal basis, which is often difficult to reach agreement among different jurisdictions.

Cross-border enforcement needs to be recognized by the courts or relevant institutions of the country to be enforced, which is subject to the rules of private international law and bilateral agreements, and the enforcement process is cumbersome and time-consuming. The differences of legal systems and enforcement mechanisms in different countries, especially the different standards of recognition and enforcement of foreign judgments, reduce the actual effect of awards.

For cross-border e-commerce platforms, even if a legal ruling has been obtained in a country, requiring the platform to implement measures such as closing merchant accounts and compensating for losses, the platform may be difficult to operate because of legal restrictions in different countries. Especially when it comes to financial compensation, legal restrictions on cross-border remittances, foreign exchange management policies and other factors may become obstacles to implementation. Even if the ruling is approved, the actual execution process may also face practical problems such as the difficulty of finding the property of the executed person, the inability to freeze or seize it (Liemanto et al., 2021).

### **3. Analysis of the status quo of online disputes in cross-border e-commerce**

#### **3.1. Types and frequency of disputes**

The types and frequency of cross-border e-commerce online disputes can be analyzed from multiple dimensions. Taking Tmall International as an example, we can get some insights from consumer complaint data and typical cases. First, the quality of goods. The quality of goods is one of the main problems complained by Tmall International users. Consumers often report that the goods they receive are defective in quality or do not conform to the description (Ghozali and Ispriyarso, 2021). This kind of problem may lead to consumer dissatisfaction and decline in trust. Second, the problem of fake goods. The problem of selling fake goods on the Internet is also a common type of dispute on cross-border e-commerce platforms. The goods purchased by consumers may be suspected of being counterfeit and inferior products, which is not only related to the quality of goods, but also to the protection of brand rights and consumer rights. Third, the issue of delivery. Shipping issues include situations such as late shipping, wrong shipping, or no shipping. Consumers expect to receive goods on time after placing orders, and any problems in the delivery process may lead to disputes. Fourth, the issue of fraud. The problem of network fraud may involve false propaganda, price fraud and so on. Such problems can seriously damage consumers' shopping experience and the credibility of the platform. Fifth, the description of goods does not match. This refers to the inconsistency between the goods received by consumers and the information displayed on the platform. This situation may lead to

a decline in consumer trust in the platform and lead to follow-up problems such as returns and exchanges.

In terms of the frequency of complaints, according to the data of the Internet Economic Society, Tmall International received 18 consumer ratings in 2022, all of which were “not rated”. This shows that the platform may have some problems in dealing with consumer complaints, and needs to further improve and improve the quality of service. Cross-border e-commerce online disputes have various types and high frequency, involving commodity quality, authenticity identification, logistics services and other aspects. The platform needs to take effective measures to enhance the shopping experience of consumers and reduce the occurrence of disputes. At the same time, the platform also needs to establish a sound consumer rights protection mechanism to ensure that the legitimate rights and interests of consumers are effectively safeguarded (Hongmei, 2021).

Data collection is conducted through online surveys and in-depth interviews. The questionnaire design is based on previous research and expert consultation, ensuring the scientific and comprehensive nature of the questions. The samples were selected through stratified random sampling from active users on the Tmall Global platform to ensure diversity and representativeness of the samples. The data analysis was conducted using SPSS software for descriptive statistics and regression analysis to test hypotheses and reveal relationships between variables.

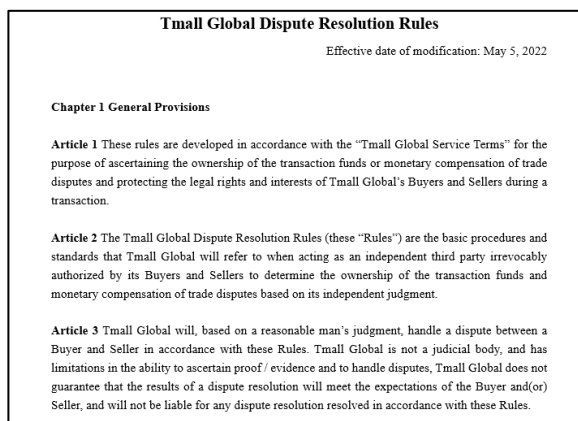
Before formal data collection, we conducted a one-month pilot study to test the validity and reliability of the questionnaire. The results of the pilot study guided the final design of the questionnaire. We used a standardized satisfaction scale to evaluate consumer satisfaction with the Tmall Global platform, which has been validated in previous studies to have high reliability and validity.

The data was collected from January to March 2023, and the participants were consumers of the Tmall Global platform who had at least three shopping experiences in the past year. Data analysis includes data cleaning, variable coding, descriptive statistical analysis, and hypothesis testing. The data cleaning steps include handling missing and outliers to ensure the accuracy of the analysis results.

### **3.2. Existing mechanisms for dispute resolution**

As a cross-border e-commerce platform under Alibaba Group, Tmall International has established a relatively perfect online dispute resolution mechanism, which is shown in **Figure 1**. The platform uses a variety of ways to deal with and resolve disputes between consumers and businesses, to protect the legitimate rights and interests of both parties, and to maintain the market order of the platform.

Tmall Global provides an automated dispute submission and resolution system. Consumers can submit dispute applications directly on the interface of the platform, and describe the nature of the problem and their own demands in detail. The system will automatically assign the case to the corresponding processing department or professional dispute resolution team according to the type of dispute. This automated process greatly improves processing efficiency and shortens the time to resolve disputes (Qi et al., 2020).



**Figure 1.** Tmall Global dispute resolution rules.

Source: Tmall Global, 2024.

In order to promote the two sides to negotiate and solve the problem, Tmall International has also set up an online negotiation platform to encourage consumers and businesses to communicate directly and find solutions acceptable to both sides. This mechanism helps to enhance understanding and trust between the two sides, and in many cases can solve problems quickly and effectively, avoiding complex dispute settlement processes. When self-negotiation fails to solve the problem, Tmall International also provides arbitration services involving third parties. The platform will invite independent third-party experts or arbitration institutions to participate in the objective and impartial adjudication of disputes. This service guarantees the fairness of the processing results and improves the acceptability of the solution.

### 3.3. Inadequacy of existing mechanisms

Although Tmall International has established a relatively perfect online dispute resolution mechanism, there are still some shortcomings in the actual operation process (Liao and Shao, 2021). Although the automatic dispute settlement system improves the processing speed, it lacks flexibility and accuracy when dealing with complex or special disputes. Automated systems are often difficult to fully understand and evaluate the specific circumstances of the dispute, resulting in the results cannot meet the actual needs of both sides. Although the online negotiation platform encourages direct communication between the two sides, in practice, it is difficult for the two sides to reach a consensus due to information asymmetry and lack of trust. Consumers often lack professional knowledge and are difficult to effectively express their demands, while businesses may be unwilling to make reasonable concessions because of safeguarding their own interests. As a result, online negotiation often fails to solve the problem, but increases the contradiction between the two sides. Although the third-party arbitration service guarantees the fairness of the process, the arbitration process often takes a long time, and the enforcement of the arbitration results is also problematic, especially in cross-border transactions, where the enforcement of the arbitration award faces greater legal and practical obstacles.

In the European Union, the establishment of the ODR platform emphasizes the convenient resolution of cross-border shopping disputes, characterized by mandatory merchant participation and multilingual support. In contrast, the ODR mechanism in the United States focuses more on market driven solutions, emphasizing technology

neutrality and user autonomy. China has incorporated localized legal norms and cultural considerations into the ODR mechanism to meet the needs of domestic consumers and businesses.

## **4. Inspiration from online dispute resolution mechanism of cross-border e-commerce**

### **4.1. Online dispute resolution in the european union**

The European Union has taken a series of forward-looking initiatives in dealing with cross-border e-commerce disputes, the most representative of which is the establishment of an online dispute resolution platform (ODR platform) in 2016. This platform provides consumers and merchants with an easily accessible and user-friendly way to resolve cross-border shopping disputes. ODR platform allows consumers to submit disputes without leaving home when they encounter cross-border shopping problems and seek a fair and rapid solution. When consumers encounter disputes related to goods or services purchased online, they can submit complaints through the ODR platform. Businessmen must register on the platform and respond to consumers' questions within a certain period of time after receiving complaints. If both parties agree, the dispute may be referred to a selected ADR institution for mediation or arbitration. Adjudication by ADR agencies on the EU ODR platform is usually non-mandatory, but both parties can agree to accept the result in advance. The decisions of some ADR bodies may be binding, depending on the laws of the Member States and the rules of the ADR bodies.

The European Union's online dispute resolution mechanism attaches great importance to the use of technical means to reduce the threshold of dispute resolution, emphasizing efficiency and transparency. The parties to the dispute can communicate with the assistance of a neutral third party to explore the possibility of reaching a settlement. The platform is equipped with multilingual support, and consumers and businesses in member countries have equal access opportunities to overcome the barriers caused by language differences. Since its launch, the EU ODR platform has attracted a large number of consumers and played a role in promoting reconciliation between the two sides (Liu et al., 2021). Although the platform has achieved some results, there are still some challenges, such as improving public awareness of the ODR platform, improving the user experience and satisfaction of the platform, and so on.

In response to the shortcomings of the existing ODR mechanism, we suggest strengthening internal supervision of the platform, improving the professional level of service personnel, introducing artificial intelligence and big data technology to optimize dispute resolution processes, and aligning with international legal standards to form unified or mutually recognized dispute resolution standards.

### **4.2. Online dispute resolution in ASEAN**

Although ASEAN is relatively late in the development of e-commerce, its progress in online dispute resolution is also worthy of attention. The online dispute resolution mechanism of ASEAN focuses on building a regional framework to

promote collaboration among member countries to jointly address the challenges of cross-border e-commerce disputes. In recent years, ASEAN recognizes the importance of online dispute resolution mechanisms for cross-border e-commerce, and therefore actively promotes the establishment and improvement of ODR platforms among member countries. These platforms help consumers and businesses resolve disputes in e-commerce transactions in a more convenient and efficient way by providing services such as online negotiation, mediation and arbitration.

ASEAN has developed the ASEAN Guidelines for Consumer Protection in Electronic Commerce in March 2023, which provides a series of guiding principles and recommended measures to help member countries protect consumer rights and interests in the field of electronic commerce. These measures include ensuring consumers' right to know, choice, safe payment and privacy protection in e-commerce transactions. ASEAN has promoted a number of policies and initiatives to establish a mutually recognized and coordinated online dispute resolution mechanism. To formulate unified e-commerce regulations and standards, establish a sharing platform for online dispute resolution, and enhance cooperation among member countries in the collection and authentication of electronic evidence. Simplify the process of resolving cross-border e-commerce disputes and reduce friction between different legal systems (Fang and Wang, 2021). ASEAN released the "ASEAN Alternative Dispute Resolution (ADR) Guidelines" and "ASEAN Online Dispute Resolution Guidelines (ODR)" in 2021 and 2022 respectively, and ASEAN actively promotes information exchange and resource sharing among member countries, such as holding training seminars, sharing best practices and establishing regional network platforms to enhance the capacity of member countries in online dispute resolution. ASEAN also actively participates in international cooperation and exchanges, and cooperates with international organizations such as the United Nations Commission on International Trade Law (UNCITRAL) to jointly explore and promote best practices and solutions for cross-border trade regulation and online dispute resolution.

Malaysia is an important member of ASEAN and its online dispute resolution mechanism is based on its e-commerce legal framework and online platform. The legal framework for e-commerce includes the Electronic Government Activities Law, the Electronic Signature Law, the Digital Certificate Law, etc., aiming to regulate electronic transactions and protect the rights and interests of participants. The online platform provides services such as complaint submission, mediation, and arbitration to facilitate consumers and merchants to resolve disputes. Consumer protection agencies oversee and manage online dispute resolution matters and provide guidance and support during the dispute resolution process. If online disputes cannot be resolved through the platform, participants may resort to legal proceedings, which will be handled by Malaysia's court system. Overall, Malaysia's online dispute resolution mechanism aims to provide consumers and merchants with an effective, fair and convenient solution, promote the development of e-commerce and protect the rights and interests of participants.

### **4.3. Online dispute resolution in the United States**

Online Dispute Resolution (ODR) in the United States has significant

characteristics and development process in the path of international law regulation. As the leader of the global Internet economy, the United States has adopted a series of policies and measures to promote the development of the Internet economy and cross-border data flows. The U.S. government realized the importance of cross-border data flows in investment as early as 1983 and promoted data assurance projects within the Organization for Economic Cooperation and Development (OECD) to ensure that developed countries did not impose new restrictions on data flows. In 1997, the Clinton Administration formulated the Global Framework for Electronic Commerce, which established a set of global guidelines for the governance of cross-border data flows, clarified the government's position on a series of important issues related to electronic commerce, and set a road map for relevant international negotiations. In the field of electronic commerce, every state in the United States has actively legislated and formulated laws related to electronic commerce, such as the Utah Digital Signature Act of 1995, which is the first legal document in the United States and even in the world to establish the operation norms of electronic commerce in an all-round way. The United States Congress has also deliberated and debated the national e-commerce bill, but its process is relatively slow, and has not yet formed a unified national e-commerce legal norm. In addition, the American Bar Association and other unofficial organizations have also played an active role in the legislation of e-commerce, which has promoted the development and improvement of e-commerce law (Nyaga, 2023).

Generally speaking, the online dispute resolution mechanism in the United States reflects its emphasis on Internet freedom and data flow, and provides a legal basis and guarantee for the development of e-commerce through the formulation and implementation of various laws and policies. At the same time, the United States actively promotes the formulation of international rules related to e-commerce at the international level in order to achieve the free flow of data and the healthy development of e-commerce worldwide.

## **5. Strategies for improving the online dispute resolution mechanism of cross-border e-commerce in China**

### **5.1. Enhance the dispute resolution capability of the cross-border e-commerce platform**

#### **5.1.1. Establish a sound internal dispute handling process**

The cross-border e-commerce platform needs to set up a special dispute handling department, which is responsible for receiving, classifying and handling all disputes. The department should have a clear organizational structure, and clarify the responsibilities and work processes of each member. The process of dispute settlement should start from the receipt of disputes, and the channel and format of dispute submission should be clarified. The platform should provide consumers with an easy-to-operate online submission system and provide clear guidance on how to submit disputes (Sinaga et al., 2020). The submitted dispute information should include the specific type of dispute, the time of occurrence, the goods or services involved, the



claims and evidence of both parties, so as to facilitate the preliminary judgment and classification of the dispute handling department.

According to the nature of the dispute, it is assigned to the corresponding processing group. Simple disputes can be initially handled by automated systems, while complex or high-value disputes should be handled manually by experienced staff. For each type of dispute, the platform should formulate standardized processing procedures and solutions, including dispute investigation, evidence collection, communication between the two sides, and solution proposal (Ballesteros, 2021).

### **5.1.2. Improve the professional level of service personnel**

Cross-border e-commerce platform should improve the professional level of service personnel, and the platform needs systematic training for service personnel, including platform rules, consumer rights protection, dispute settlement process, communication skills and other aspects of training. The professional training of service personnel should also include knowledge in specific fields, such as international trade law, cross-border logistics, foreign language communication, etc., especially for those service personnel dealing with transnational disputes. The platform can cooperate with external professional institutions to provide continuous education and training opportunities for service personnel and continuously update their professional knowledge and skills.

## **5.2. Strengthen international cooperation and form a unified dispute resolution standard**

### **5.2.1. Promote the coordination of international e-commerce laws and regulations**

To help businesses cope with legal challenges in cross-border e-commerce, we suggest strengthening research and information exchange on e-commerce laws and regulations in different countries, providing clear legal guidance for businesses, and reducing disputes caused by legal differences.

In order to deal with disputes in cross-border e-commerce activities, we should strengthen the research and information exchange of international e-commerce laws and regulations. Collect and analyze the experience of different countries in e-commerce laws and regulations, identify the similarities and differences between the laws of different countries, and provide a basis for coordination. Regularly publish research reports and hold international seminars to enhance the understanding and exchange of e-commerce laws and regulations among different countries.

To promote and encourage the adoption of harmonized legal standards for electronic commerce at the international level. International organizations such as the World Trade Organization (WTO) and the United Nations Conference on Trade and Development (UNCTAD) can play a key role in this regard. Through the formulation of international legal framework and standards for e-commerce, countries are urged to gradually adjust and improve their laws and regulations to meet international standards. In order to further promote this process, international organizations can take various measures (Wahid, 2023). To raise awareness and understanding of legal standards on electronic commerce among government officials and legal practitioners through

seminars, workshops and training courses. Promote the exchange of knowledge and skills by establishing an international platform for countries to share best practices, experiences and challenges. In addition, international organizations could provide technical assistance and capacity-building support to help developing countries develop and implement e-commerce laws that comply with international standards. International organizations should encourage and support the efforts of regional organizations in the legal standardization of electronic commerce. Regional economic groups such as the European Union, the Association of Southeast Asian Nations and the African Union have made some progress in promoting legal coordination of e-commerce among member countries. Through regional cooperation, we can provide useful experience and models for the formulation and promotion of global e-commerce legal standards (Wahid, 2023).

### **5.2.2. Establish a transnational e-commerce dispute resolution platform**

Led by international organizations, governments, e-commerce platforms and relevant stakeholders jointly participate in the design and construction of the platform. The construction of the platform should take full account of the legal system, language and cultural differences of different countries to ensure its wide applicability and ease of use. The core functions of the platform should include dispute submission, automated case handling, online mediation and arbitration. The dispute submission system should support multiple languages, simplify the submission process, and enable consumers and merchants to submit dispute cases easily (Situmorang, 2022).

Online mediation and arbitration services are the core of the platform, and mediators and arbitrators with international vision and professional background should be employed to provide professional and impartial services for both parties to the dispute. The platform should also provide a case tracking and feedback mechanism so that both sides of the dispute can understand the progress of the case in real time and ensure the transparency of the whole settlement process (Yang and Xing, 2020).

In order to enhance the authority and effectiveness of the platform, cooperation should be established with governments and international legal organizations to enable the mediation and arbitration decisions of the platform to be recognized and implemented in all countries. The operation of the platform should also be evaluated and optimized regularly, and the service functions should be adjusted according to user feedback and technological development.

## **5.3. Strengthen international cooperation and form a unified dispute resolution standard**

### **5.3.1. Build a dispute analysis system supported by big data**

In order to effectively deal with the increasing disputes on cross-border e-commerce platforms, a big data support is constructed, which uses big data analysis technology to conduct in-depth analysis of the types, causes, processing time, processing results and customer satisfaction of disputes, and to discover potential dispute rules and risk points, so as to provide data support for preventing disputes and improving processing efficiency. Through the ODR system supported by big data technology, the operation status of cross-border e-commerce platform can be monitored and evaluated in real time, and possible legal compliance problems can be

found and warned in time. Using machine learning and artificial intelligence algorithms, the system can automatically identify and classify different types of disputes, providing more accurate and personalized solutions for businesses and consumers. This data-based ODR system can assist in formulating more reasonable preventive measures and policies, and predict future dispute trends by analyzing historical data, thus helping the platform to prepare in advance and optimize resource allocation (Situmorang, 2022). For example, if the data shows that a certain type of product or service frequently causes consumer complaints, the platform can strengthen the supervision of such products or services, improve quality standards and reduce potential disputes.

In addition, big data can also help improve consumer education and awareness. By analyzing the behavior patterns of consumers when using cross-border e-commerce platforms, we can find out the confusion and problems that consumers may encounter in the process of shopping, so as to design more effective consumer education programs, improve consumers' self-protection ability and reduce unnecessary disputes (Alshathri, 2022).

According to the e-commerce database "DATA.100EC. CN" under the umbrella of NetEase, Tmall International is suspected of having issues with online counterfeiting, express delivery issues, product quality, refund issues, false promotions, incorrect products, difficult returns and exchanges, customer service issues, online fraud, and overbearing clauses. Statistics are shown in **Table 1**.

**Table 1.** Complaint data from Tmall Global in 2023.

<b>Dispute type</b>	<b>Number of cases</b>	<b>Proportion</b>
Online counterfeit sales	23529	23.5%
Express delivery issues	20588	20.6%
Product quality	17647	17.6%
Refund issue	11765	11.8%
False promotions	5882	5.9%
Wrong goods board	5882	5.9%
Difficulty in returns and exchanges	5882	5.9%
Customer service issues	2941	2.9%
Online fraud	2941	2.9%
Overlord clause	2941	2.9%

Data resource: Zhejiang Nethersole Information Technology Co., 2024.

There are significant differences between different types of disputes in terms of processing time, successful resolution rate and customer satisfaction, and that some types of disputes are highly prevalent in a specific period of time. Based on these features, the platform can select effective measures.

The platform should use big data technology to conduct in-depth analysis of dispute types, causes, processing times, processing results, and customer satisfaction, identify potential dispute patterns and risk points, and provide data support for preventing disputes and improving processing efficiency.

### **5.3.2. Use cloud computing to improve the efficiency of dispute settlement**

The platform needs to deploy the dispute settlement system on the cloud platform, and the system has high scalability and reliability. The elastic computing resources of cloud platform can be automatically adjusted according to the actual needs of dispute settlement, and can also maintain efficient processing capacity in the period of high incidence of disputes. Using cloud computing, the platform can realize the automation and intellectualization of dispute settlement process. For example, AI services on cloud platforms can be used to automatically conduct preliminary analysis and classification of disputes submitted by users, and quickly assign cases to the most appropriate processing team or individual. This can not only shorten the response time of disputes, but also improve the accuracy of handling (Aziz and Hamid, 2020).

Cloud computing can also facilitate collaboration across geographies to resolve disputes. Dispute settlement teams in different regions can share case information and progress in real time, and even if they are in different corners of the world, they can work together efficiently to resolve disputes.

### **5.3.3. Application of blockchain and artificial intelligence technology in dispute resolution**

Blockchain technology, with its distributed ledger and encryption features, provides a secure and transparent transaction recording method for cross-border e-commerce. This tamper proof recording system can simplify the evidence collection and verification process in dispute resolution. Artificial intelligence technology, especially natural language processing, can be used to analyze user feedback and historical dispute cases, automatically identify key points of disputes, and recommend solutions. Machine learning algorithms can also predict dispute trends and provide preventive measures for the platform. By combining blockchain and artificial intelligence technology, smart contracts can be developed to automate the execution of dispute resolution protocols, reducing manual intervention and improving execution efficiency. In addition, AI assisted personalized dispute resolution solutions can provide customized services based on the specific needs of different users. Despite the enormous potential provided by emerging technologies, we also face challenges such as technological acceptance, data privacy protection, and adaptability to existing legal frameworks. Countermeasures include strengthening technical education and training, developing supportive policies, and collaborating with regulatory agencies to ensure the effective and compliant application of technology. We look forward to these technologies providing consumers with safer and more efficient dispute resolution channels, and driving continuous innovation and development of e-commerce platforms.

## **5.4. Strengthen the protection of consumers' rights and interests**

### **5.4.1. Improve consumer education and information transparency mechanism**

The platform needs to establish a consumer education center to provide guidance and advice on cross-border shopping, including how to safely conduct cross-border shopping, how to understand and compare commodity information, how to check the reputation of businesses and how to effectively safeguard their consumer rights and interests (Kesuma and Triputra, 2020).

Consumer education centers should provide various forms of educational resources, including online tutorials, FAQs, video lectures, interactive questions and answers, to adapt to the learning preferences of different consumers. The platform should also regularly organize online and offline consumer rights protection activities to enhance consumer awareness and knowledge of rights protection.

In order to enhance information transparency, the platform should require all merchants to provide accurate and detailed commodity information, including the origin, specifications, ingredients, instructions for use, after-sales service, etc., and regularly review the information provided by the merchants to ensure its accuracy and authenticity (Santoso, 2021). The platform should also disclose the evaluation and feedback mechanism of the merchants, so that consumers can easily access the evaluation and experience of other consumers to help them make more informed purchase decisions. Establish a transparent price mechanism so that consumers can clearly understand all possible costs such as commodity prices, freight, taxes and fees, and avoid disputes caused by unclear costs.

In order to ensure that consumers can obtain detailed product information, the platform must require all merchants to provide accurate and detailed product information, including but not limited to price, quality standards, ingredients, instructions for use, after-sales service, etc. In addition, the platform should regularly review the information provided by merchants to ensure its accuracy and authenticity.

#### **5.4.2. Establish a quick response consumer complaint handling system**

The platform should set up an easily accessible complaint submission channel, allowing consumers to submit complaints through a variety of ways, including online forms, e-mail, social media, customer service hotline, etc. These channels should be open 24 hours a day, and consumers can get help in time when they encounter problems.

The platform should establish a standardized complaint handling process, and the whole process from complaint reception, confirmation, classification, handling to feedback should have clear time nodes and quality standards. For each complaint, the platform should confirm the receipt to the consumer within the shortest time after receipt, and assign it to the corresponding processing team according to the nature of the complaint.

The handling team should have professional knowledge and skills to quickly and accurately analyze the causes of complaints and propose solutions. For simple complaints, we should strive to give solutions within 24 hours. For complex complaints, an initial resolution or processing plan should be proposed within a defined time frame, such as 72 hours, and the progress of processing should be updated regularly.

The platform should also establish a complaint handling supervision mechanism to monitor and evaluate the handling process and results. The platform should regularly analyze complaint data, identify the root causes of problems, continuously optimize goods, services and processes, and reduce the frequency of complaints.

## **5.5. Optimize laws and regulations to provide a clear framework for dispute resolution**

### **5.5.1. Clarify the scope of application of law for e-commerce disputes**

In order to effectively deal with cross-border e-commerce disputes, it is necessary to clarify the scope of legal application of disputes. Cross-border e-commerce platforms should work with legal experts to develop a clear set of applicable rules of law in accordance with international trade law, contract law and relevant e-commerce laws of various countries. The set of rules should spell out the legal principles applicable in different situations, including the place of formation of the contract, the law of the location of the consumer, the law of the location of the merchant, and international conventions (Dahlan et al., 2023).

Cross-border e-commerce platforms need to explicitly include these legal application rules in user agreements, and users have clear legal application guidelines when conducting transactions. The user agreement should describe the scope of application of the law in concise and clear language and avoid technical legal terms. The platform should also provide legal advisory services to help users clearly understand the applicable laws and their rights when they encounter disputes.

### **5.5.2. Simplify the legal process of online dispute resolution**

In order to improve the efficiency of cross-border e-commerce dispute resolution, the platform should be committed to simplifying the legal procedures of online dispute resolution. The platform should develop an online dispute submission system that allows users to submit disputes through electronic forms, and the system should automatically collect and classify dispute information and respond quickly to problems.

The platform should also establish an online mediation and arbitration mechanism to provide a platform for both parties to disputes to resolve disputes without appearing in court. Online mediation and arbitration procedures should be designed to be as simple as possible to reduce unnecessary legal formalism, such as reducing the requirements for the form of evidence and simplifying the enforcement procedures of arbitral awards. The decision-making process of online mediation and arbitration should be open and transparent, and all participants can clearly understand the basis and process of decision-making (Chaisse and Kirkwood, 2022).

The platform should cooperate with the legal institutions of various countries to explore the establishment of a legal mutual recognition mechanism for cross-border e-commerce dispute resolution. This means that the results of online arbitration and mediation in one country can be recognized and supported by other countries, thus greatly improving the efficiency of transnational dispute resolution.

## **5.6. Promote online arbitration and mediation, and expand dispute resolution methods**

### **5.6.1. Establishment of online arbitration mechanism**

Cross-border e-commerce platforms should establish online arbitration mechanisms to provide efficient and convenient dispute resolution services for global users. The platform needs to cooperate with international arbitration institutions and

introduce professional arbitration teams. The online arbitration mechanism should cover the whole process of arbitration application, case hearing and award issuance, and use the technical support of the platform to realize the online process (Dupont and Lusthaus, 2022). When establishing an online arbitration mechanism, cross-border e-commerce platforms should also ensure the transparency and fairness of the mechanism. This means that arbitration rules, procedures and fee structures should be open and clear so that all users can fully understand and trust the system. The platform should provide an easy-to-navigate interface that allows users to easily submit arbitration applications and track the progress of cases. In order to improve the professionalism and efficiency of arbitration, the platform should cooperate with arbitration institutions with international reputation to ensure that arbitrators have appropriate legal expertise and experience in the field of e-commerce. These arbitrators should follow internationally recognized principles and standards of arbitration, such as independence, impartiality and confidentiality, to ensure the quality and enforcement of the award. Online arbitration mechanisms should also take into account the legal differences of different countries and regions, provide multilingual services, and ensure that global users can effectively participate in the arbitration process.

In order to ensure that users can easily access and use online arbitration services, the platform should develop a special online arbitration system or module. The system shall support multiple languages and provide a simple and clear operation interface, so that users can easily submit arbitration applications and upload relevant evidence and materials (Zhuk, 2023). The online arbitration system shall also provide a real-time progress tracking function to allow the user to check the status of the case at any time. In the process of online arbitration, the platform should ensure that both parties have sufficient opportunities to express and debate. Online hearings can be set up in the form of video conference, so that arbitrators, applicants and respondents can communicate and present face to face.

#### **5.6.2. Development of online mediation services**

The online mediation center should provide a mediation platform that is easy to operate, support multiple communication methods such as text, audio and video, and meet the needs of different users. Mediation platforms should allow both parties to submit mediation applications, upload relevant evidence and materials, and provide space for online communication and consultation. Mediators can organize multiple rounds of dialogue and consultation between the two sides on the platform to guide the two sides to reach consensus.

Online mediation services should emphasize flexibility and voluntariness, and encourage both parties to find satisfactory solutions independently with the assistance of mediators. Once the mediation agreement is reached, the platform should provide the electronic version of the agreement to ensure the formality and execution of the agreement. To improve the applicability and popularity of online mediation services, the platform should conduct online mediation education and publicity for users, and improve users' awareness and acceptance of online mediation services. Online mediation centers should ensure the security and privacy of the mediation process. This means the platform needs to adopt advanced encryption technology and data

protection measures to ensure that all submitted sensitive information and communication records are properly protected from unauthorized access and disclosure. Online mediation centers should establish an efficient case management system that enables both mediators and parties to track the status of cases in real time, manage the progress of cases, and receive timely notifications and updates. The system should also be able to automatically remind the parties of important dates and deadlines to ensure the smooth running of the mediation process.

In order to accommodate users with different cultural and legal backgrounds, online mediation centers should employ mediators with multicultural and legal backgrounds. These mediators should have the ability of cross-cultural communication, understand and respect the business practices and legal provisions of different countries and regions, so as to provide more impartial and neutral mediation services. Online mediation centers should also establish partnerships with national legal institutions and consumer protection organizations to provide legal support and assistance where necessary. Such cooperation can help mediation centers better understand and adapt to the legal environment of different countries and improve the quality and efficiency of mediation services.

## **6. Conclusion**

To sum up, in the vigorous development of cross-border e-commerce, effectively resolving online disputes has become the key content of protecting consumers' rights and interests and maintaining market order. Faced with the challenges of the complexity of the application of law, the difficulty of obtaining evidence and the difficulty of execution, it is necessary to build an efficient and fair dispute resolution mechanism. Cross-border e-commerce should actively establish a sound internal dispute settlement process, improve the professional level of service personnel, introduce artificial intelligence and big data technology, and optimize the dispute settlement process. E-commerce also needs to strengthen the docking with international legal standards, promote the formation of unified or mutually recognized dispute resolution standards, reduce legal risks, and improve the efficiency and fairness of dispute resolution. Looking forward to the future, with the continuous progress of technology and the deepening of international cooperation, the online dispute resolution mechanism of cross-border e-commerce will develop in a more intelligent and international direction, which will not only provide consumers with a safer and more convenient shopping environment and enhance consumer confidence, but also promote the sustained and healthy development of e-commerce platforms. Bring new vitality to international trade. Looking ahead to the future, with the continuous progress of artificial intelligence technology, we anticipate that cross-border e-commerce dispute resolution will become more personalized and intelligent. For example, through machine learning and natural language processing techniques, ODR platforms can more accurately understand user needs and provide customized dispute resolution solutions. In addition, the development of collaborative platforms will promote communication and consultation among different stakeholders, achieving more harmonious dispute resolution.



**Author contributions:** Conceptualization, XZ and NKD; methodology, NKD and HA; validation, XZ, NKD and HA; formal analysis, XZ; investigation, XZ; resources, NKD and HA; data curation, XZ; writing—original draft preparation, XZ; writing—review and editing, NKD and HA. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research was funded by the Fundamental Research Grant Scheme (FRGS) grant number FRGS/1/2022/SSII2/UKM/02/11 and the Ministry of Higher Education (MOHE), Malaysia.

**Conflict of interest:** The authors declare no conflict of interest.

## References

- Akhtar, N., Khan, A., Habib, R. I., et al. (2022). Online dispute resolution as a solution to E-Commerce disputes: a comparative study of Pakistan and UK. *The journal of contemporary issues in business and government*, 28(3), 149-159. doi: 10.47750/cibg.2022.28.03.015
- Alshathri, S. A. (2022). Online dispute resolution as a mechanism to enhance consumer trust in e-commerce: how can Saudi Arabian law be improved [PhD thesis]. Newcastle University.
- Aziz, T. N. R. A., & Hamid, N. A. A. (2020). The Settlement of disputes through Online Dispute Resolution (ODR): A Literature Review. *Asian Journal of Research in Business and Management*, 2(4), 90-98.
- Ballesteros, T. (2021). International Perspectives on Online Dispute Resolution in the E-Commerce Landscape. *International Journal of Online Dispute Resolution*, 8(2). doi: 10.5553/IJODR/235250022021008002002
- Chaisse, J., Kirkwood, J. (2022). Smart courts, smart contracts, and the future of online dispute resolution. Available online: <https://stanford-jblp.pubpub.org/pub/future-of-odr/release/1> (accessed on 8 March 2024).
- Dahlan, N. K., Azman, M. A.-S., Rajamanickam, R., & Zahir, M. Z. M. (2023). Online Mediation: Issues, Applications and Challenges. *Asian Journal of Research in Education and Social Sciences*, 5(3), Article 3. doi: 10.55057/ajress.2023.5.3.9
- Dupont, B., & Lusthaus, J. (2022). Countering Distrust in Illicit Online Networks: The Dispute Resolution Strategies of Cybercriminals. *Social Science Computer Review*, 40(4), 892–913. doi: 10.1177/0894439321994623
- Fang, Z., & Wang, Q. (2021). Cross-Border E-Commerce Supply Chain Risk Evaluation with FUZZY-ISM Model. *Security and Communication Networks*, 2021, 1–14. doi: 10.1155/2021/5155524
- Ghozali, M., & Ispriyarso, B. (2021). Online Arbitration in E-Commerce Dispute Resolution During the Pandemic Covid-19. *Jurnal Daulat Hukum*, 4(3), 157-170. doi: 10.30659/jdh.v4i3.16266
- Hongmei, Z. (2021). A cross-border e-commerce approach based on blockchain technology. *Mobile Information Systems*, 2021, 1-10. doi: 10.1155/2021/2006082
- Kesuma, D. A., & Triputra, Y. A. (2020). Urgency of Consumer Legal Protection and E-Commerce Dispute Resolution Through Arbitration in the Asian Market. In: *The 2nd Tarumanagara International Conference on the Applications of Social Sciences and Humanities (TICASH 2020)*. Atlantis Press. pp. 1147-1161. doi: 10.2991/assehr.k.201209.182
- Liao, Q., & Shao, M. (2021). Discussion on Payment Application in Cross-border E-Commerce Platform from the Perspective of Blockchain. *E3S Web of Conferences*, 235, 03020. doi: 10.1051/e3sconf/202123503020
- Liemanto, I. F., Hamidah, S., & Dewantara, R. (2021). The Urgency of Regulating Online Arbitration in Dispute Settlement of E-Commerce Transactions in Indonesia. *International Journal of Multicultural and Multireligious Understanding*, 8(7), 278. doi: 10.18415/ijmmu.v8i7.2847
- Liu, A., Osewe, M., Shi, Y., et al. (2021). Cross-border e-commerce development and challenges in China: A systematic literature review. *Journal of theoretical and applied electronic commerce research*, 17(1), 69-88. doi: 10.3390/jtaer17010004
- Nyaga, B. M. (2023). Online Dispute Resolution: The Future of E-Commerce in Kenya. *Journal of Conflict Management and Sustainable Development*, 8(3). doi: 10.2139/ssrn.4329110
- Qi, X., Chan, J. H., Hu, J., et al. (2020). Motivations for selecting cross-border e-commerce as a foreign market entry mode. *Industrial Marketing Management*, 89, 50-60.
- Sampani, C. (2021). Online dispute resolution in e-commerce: is consensus in regulation UNCITRAL's utopian idea or a realistic ambition? *Information & Communications Technology Law*, 30(3), 235–254. doi: 10.1080/13600834.2021.1875539

- Santoso, V. A. (2021). Legal Protection on E-Commerce Transactions: Problems and Challenges in Global Business. Semarang State University Undergraduate Law and Society Review, 1(2), 101-112. doi: 10.1016/j.indmarman.2020.01.009
- Sharma, S., Gamoura, S., Prasad, D., & Aneja, A. (2021). Emerging Legal Informatics towards Legal Innovation: Current status and future challenges and opportunities. *Legal Information Management*, 21(3-4), 218-235. doi: 10.1017/S1472669621000384
- Sinaga, S., Siregar, G., & Hutabarat, L. (2020). The model of business dispute resolution on electronic transactions in Indonesia. *Journal of Advanced Research in Dynamical and Control Systems*, 12(6), 573-580.
- Situmorang, M. (2022). Measuring The Effectiveness of Consumer Dispute Resolution on Small Value E-Commerce Transaction. *Jurnal Penelitian Hukum De Jure*, 22(4), 537. doi: 10.30641/dejure.2022.v22.537-550
- Tiway, P., & Pati, J. (2024). Harnessing Online Dispute Resolution (ODR) for Effective Conflict Resolution in E-Commerce Platforms: Opportunities and Challenges. *Naturalista Campano*, 28(1), 1933-1937.
- Tmall Global. (2024). Available online: [https://rule.tmall.hk/rule/rule\\_detail.htm?id=1519&spm=0.0.0.0.qpM91g&tag=self&tbpm=1](https://rule.tmall.hk/rule/rule_detail.htm?id=1519&spm=0.0.0.0.qpM91g&tag=self&tbpm=1) (accessed on 25 April 2024).
- Wahid, S. H. (2023). Formulation of a Risk-Based Online Dispute Resolution Model for E-Commerce in Indonesia: Legal Framework and its Application. *International Journal of Arts and Humanities Studies*, 3(2), 09-23. doi: 10.32996/Ijahs.2023.3.2.2
- Yang, L., Xing, J. (2020). Characteristics of Online Transaction Dispute Mediation Cases in Mobile Electronic Commerce. In: Salvendy, G., Wei, J. (editors). *Design, Operation and Evaluation of Mobile Communications*. Springer, Cham. doi: 10.1007/978-3-030-50350-5
- Zhejiang Nethersole Information Technology Co. (2024). Available online: <https://www.163.com/dy/article/IO89JHP10514BOS2.html> (accessed on 13 April 2024).
- Zhuk, A. (2023). Applying blockchain to the modern legal system: Kleros as a decentralised dispute resolution system. *International Cybersecurity Law Review*, 4(3), 351-364. <https://doi.org/10.1365/s43439-023-00086-x>. doi: 10.1365/s43439-023-00086-x